

A CATALOGUE OF THE ACARINA, OR MITES, OF THE UNITED STATES.

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INTRODUCTION.

In 1886 Prof. Herbert Osborn and Prof. L. M. Underwood published, in the *Canadian Entomologist*, a preliminary list of the species of Acarina of North America. It included 99 species in 28 genera. The species described prior to that time were by various entomologists, and in only one case, that of Professor Garman, had a single author done any considerable work in one genus. During the past twenty years several naturalists have described a large number of new species. Professor Wolcott, Doctor Koenike, and Miss Marshall, in the water-mites; Doctor Haller and Professor Tyrrell, in the bird-mites; Professor Neumann, in the ticks; and myself in various families, are chiefly responsible for this increase. At present there are 450 species, grouped in 133 genera, known from the United States; yet this is probably less than a third of our entire acarid fauna.

So little is known regarding the distribution of the species, most of which have been described from the Eastern States, that I have not given localities. In identifying species one must now compare the specimen with descriptions of all the species, irrespective of locality. The generic synonyms are given in the index. In the arrangement of families I have followed the common usage.

It is hoped that by bringing together these references an interest will be stimulated among others that will result in greater work in the Acarina, one of the most important groups from either the biologic or economic standpoint.

A synopsis of the genera of the mites and a list of the literature down to 1904 will be found in a *Treatise on the Acarina or Mites*, published in the *Proceedings, U. S. National Museum*, XXVIII, pages 1-114.

CATALOGUE OF THE ACARINA.

Family EUPODIDÆ.

RHAGIDIA.

Rhagida THORELL, Öfvy. Svenska Akad. Förh., XXVIII, 1871, p. 700.

R. cavicola BANKS, Amer. Nat., 1897, p. 382.

R. pallida BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 222.

LINOPODES.

Linopodes KOCH, Crust. Myr. Arach. Deutsch., fasc. 4, 1836.

L. antennæpes BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 221.

L. mammouthia BANKS, Amer. Nat., 1897, p. 383.

EUPODES.

Eupodes KOCH, Crust. Myr. Arach. Deutsch., fasc. 4, 1836.

E. marinus BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 75.

E. variabilis BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 221.

NOTOPHALLUS.

Notophallus CANESTRINI, Prosp. Acarof. Ital., II, 1886, p. 202.

N. dorsalis BANKS, Canad. Entom., 1902, p. 172.

TYDEUS.

Tydeus KOCH, Crust. Myr. Arachn. Deutsch., fasc. 4, 1836.

T. gloveri ASHMEAD, Canad. Entom., 1879, p. 159 (*Tyroglyphus*).

Family BDELLIDÆ.

BDELLA.

Bdella LATREILLE, Précis Caract. Ins., 1796, p. 180.

B. borealis KRAMER and NEUMAN, Acariden während Vega Exped., 1883, p. 525.

B. californica BANKS, Proc. Calif. Acad. Science, (3), III, 1904, p. 366.

B. cardinalis BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 219.

B. frigida BANKS, Insects, etc., Commander Isl., 1899, p. 348.

B. marina PACKARD, First Rept. U. S. Fish Com., 1874, p. 544.—BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 220.

B. oblonga SAY, Journ. Phil. Acad., II, 1821, p. 74.—LE CONTE Edit., II, 1859, p. 19.

B. peregrina BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 219.

B. robusta BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 220.

B. tenella BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 75.

B. villosa KRAMER and NEUMAN, Acariden während Vega Exped., 1883, p. 525.

CYTA.

Cyta HEYDEN, Isis, 1826, p. 612.

C. americana BANKS, Canad. Entom., 1902, p. 171 (*Ammonia*).

SCIRUS.

Scirus HERMANN, Mém. Aptérol., 1804, p. 62.

S. quadripilis BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 220.

EUPALUS.

Eupalus KOCH, Crust. Myr. Arachn. Deutsch., fasc. 4, 1836.

E. echinatus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 221.

Family CHEYLETIDÆ.

CHEYLETUS.

Cheyletus LATREILLE, Précis Caract. Ins., 1796, p. 179.

C. clavispinus BANKS, Canad. Entom., 1902, p. 172.

C. ferox BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 134.

C. pyriformis BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 135.

C. seminivorus PACKARD, Guide Study Insects, 1869, p. 665.

MYOBIA.

Myobia HEYDEN, Isis, 1826, p. 613.

M. musculi SCHRANK, Enum. Ins. Austr., 1781, p. 301.—MÉGNIN, Journ. de l'Anat. Phys., XIV, 1878, p. 432.

HARPIRHYNCHUS.

Harpirhynchus MÉGNIN, Journ. de l'Anat. Phys., XIV, 1878, p. 429.

H. longipilus BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 135 (*Sarcopterus*).

PSORERGATES.

Psorergates TYRELL, Proc. Canad. Inst., (3), I, 1883, p. 342.

P. simplex TYRELL, Proc. Canad. Inst., (3), I, 1883, p. 342.—NEUMANN, Revue Vétérinaire, April, 1893.—CANESTRINI, Prospetto, VI, 1894, p. 809.

musculus MICHAEL, Journ. Linn. Soc. Zool., XX, 1889, p. 400 (*Gonio-merus*).

SYRINGOPHILUS.

Syringophilus HELLER, Die Schmarotzer * * * den Menschen (Leipzig), 1880, p. 186.

S. bipectinatus HELLER, Die Schmarotzer, 1880, p. 186.—BERLESE, Acari Italiani, fasc. XXXVII, No. 9, 1885, p. 10.

villosa HANCOCK, Amer. Nat., 1895, p. 382 (*Picobia*).

Family ERYTHREIDÆ.

ERYTHRÆUS.

Erythræus LATREILLE, Gen. Crust. Ins., I, 1806, p. 146.

E. mamillatus SAY, Journ. Phil. Acad., II, 1821, p. 70.—LECONTE, Edit., II, 1859, p. 16.

E. spinatus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 210.

ANYSTIS.

Anystis HEYDEN, Isis, 1826, p. 612.

A. agilis BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 211 (*Actineda*).

GEKOBIA.

Gekobia MEGNIN, Ann. Soc. Entom. France, 1878, p. 188.

G. texana BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 134.

Family TETRANYCHIDÆ.

BRYOBIA.

Bryobia KOCH, Crust. Myr. Arachn. Deutsch., fasc. 4, 1836.

B. pratensis GARMAN, Fourteenth Report State Entom. of Illinois, 1885, p. 73.—MARLATT, Insect Life, III, 1890, p. 45.

pallida GARMAN, Insect Life, III, 1890, p. 74 (Young).

B. weyerensis PACKARD, Cave Memoir, 1887, p. 42.

TETRANYCHUS.

Tetranychus DUFOUR, Ann. Sci. Nat., XXV, 1832, p. 276.

T. aceris SUMMER, Trans. Amer. Ent. Soc., II, 1869, p. 320 (*Acarus*).

T. bicolor BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 218; Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 72.

T. bimaculatus HARVEY, Ann. Rept. Maine Agric. Exp. Station, for 1892 (1893), p. 133.—BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 73.

T. desertorum BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 76.

T. gloveri BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 76.—MORGAN, Bull. no. 48, Louisiana Agric. Exp. Sta., 1897, pp. 130-135.—TITUS, Cir. no. 65, U. S. Dept. Agric., Bur. Entom., 1905, p. 5.

T. gracilipes BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 72.

T. modestus BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 73.

T. mytilaspidis RILEY, Hubbard, Orange Insects, 1885, p. 216.—BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 71.—WOODWORTH, Bull. no. 145, California Agric. Exp. Sta., 1902, pp. 19, 5 figs.

T. sexmaculatus RILEY, Insect Life, II, 1890, p. 225.—BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 75.

T. telarius LINNÆUS, Fauna Suecia, 1761, p. 481.—BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 75.

T. tumidus BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 73.

T. verbesinæ COCKERELL, Nature, 16 Oct., 1902, p. 608.

T. viridis BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 218.

T. vitis BOISDUVAL, Entom. Horticole, 1867, p. 92.

telarius MAYET and VIALA, Ann. de l'Ecole Nationale d'Agric. de Montpellier, 1893, pp. 18, 1 pl. (not of Linnaeus).

TENUIPALPUS.

Tenuipalpus DONNADIEU, Ann. Sci. Linn., Lyon, XXII, 1875, p. 111.

T. californicus BANKS, Jour. N. Y. Entom. Soc., 1904, p. 55.

TETRANYCHOIDES.

Tetranychoides BANKS, Jour. N. Y. Entom. Soc., 1904, p. 54.

T. californica BANKS, Jour. N. Y. Entom. Soc., 1904, p. 54.

STIGMÆUS.

Stigmaeus KOCH, Crust., Myr. Arachn. Deutsch., fasc. 4, 1836.

S. floridanus BANKS, Tech. Bull. no. 8, Div. Ent., U. S. Dept. Agric., 1900, p. 77.

NEOPHYLLOBIUS.

Neophyllobius BERLESE, Acari dann. piante colt., 1886, p. 20.

N. americanus BANKS, Proc. Ent. Soc., Wash., VII, 1906, p. 133.

Family RHYNCHOLOPHIDÆ.

RHYNCHOLOPHUS.

Rhyncholophus DUGÉS, Ann. Sci. Nat., (2), I, 1834, p. 31.

R. angustipes, new name.

gracilipes BANKS, Proc. Calif. Acad. Sci., (3), III, 1904, p. 305 (not of Kramer, 1897).

R. cavernarum PACKARD, Cave Memoir, 1887, p. 42.

R. cinctipes BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 216.

R. elongatus BANKS, Insects, etc., Commander Isl., 1899, p. 348.

R. floridanus BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 74.

R. longipes BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 215.

R. maculatus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 216.

R. montanus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 216.

R. parvus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 216.

R. pilosus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 217.

R. punctatus BANKS, Proc. Acad. Nat. Sci., Phil., 1904, p. 143.

R. robustus BANKS, Ann. New York Acad. Sci., VIII, 1895, p. 432.

R. roseus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 215.

R. simplex BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 215.

R. texanus BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 217.

SMARIS.

Smaris LATREILLE, Précis Caract. Ins., 1796, p. 180.

S. australis BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 74.

S. occidentalis BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 214.

Family TROMBIDIIDÆ.

TROMBIDIUM.

Trombidium FABRICIUS, Geb. Insect., 1776, p. 151.

T. armatum KRAMER, and NEUMAN, Acariden während Vega Exped., 1883, p. 521.

T. bulbipes PACKARD, 3rd Mass. Rept., 1873, p. 26.

T. gemmosum BANKS, Proc. Acad. Nat. Sci. Phil., 1901, p. 595.

T. giganteum RILEY, First Rept. U. S. Ent. Com., 1878, p. 312.—BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 212.

T. granulatum BANKS, Canad. Entom., 1902, p. 171.

T. magnificum LE CONTE, Proc. Acad. Nat. Sci. Phil., 1852, p. 145.—BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 213.

T. marinus BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 73.

T. scabrum SAY, Journ. Phil. Acad., II, 1821, p. 69.—LE CONTE, Edit., II, 1859, p. 16.—BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 212.

T. sericieum SAY, Journ. Phil. Acad., II, 1821, p. 70.—LE CONTE, Edit., II, 1859, p. 6.—RILEY, 7th Mo. Rept., 1875, p. 175.—BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 212.

MICROTROMBIDIUM.

Microtrombidium HALLER, J. H. Ver. Würtb., XXXVIII, 1882, p. 322.

M. granulosa BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 74 (*Ottonia*).

M. locustarum WALSH, Pract. Entom., I, 1866, p. 126.—RILEY, Amer. Nat., XII, 1878, p. 139; First Ann. Rept. U. S. Ent. Com., 1878, p. 306.—BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 213.

M. muscarum RILEY, First Rept. U. S. Ent. Com., 1878, p. 306.—BANKS, Trans. Amer. Ent. Soc., XXI, 1894, p. 213.

M. trombidiodes BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 74 (*Ottonia*).

Family CÆCULIDÆ.

CÆCULUS.

Cæculus DUFOUR, Ann. Sci. Nat., XXV, 1832, p. 289.

C. americanus BANKS, Proc. Ent. Soc. Wash., IV, 1899, p. 221.

C. clavatus BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 136.

Family HYDRACHNIDÆ.

LIMNOCHARES.

Limnochares LATREILLE, Précis, Caract. Ins., 1796, p. 181.

- L. aquaticus** LINNÆUS, Faun. Suec., 1761, p. 482.—PIERSIG, Das Tierreich, Lief. 13, 1901, p. 14.
L. extendens SAY, Jour. Phil. Acad., 11, 1821, p. 80.—LE CONTE, Edit., 11, 1859, p. 22. [Probably not the European species of same name.]

EYLAIS.

Eylais LATREILLE, Précis, Caract. Ins., 1796, p. 182.

- E. desecta** KOENIKE, Abh. naturw. Ver. Bremen, XIV, 1897, p. 288.
E. falcata KOENIKE, Abh. naturw. Ver. Bremen, XIV, 1897, p. 288.
E. triangulifera KOENIKE, Abh. naturw. Ver. Bremen, XIV, 1897, p. 289.

THYAS.

Thyas KOCH, Crust. Myr. Arach. Deutsch., 1835, fasc. 5.

- T. pedunculata** KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 192.
T. stolli KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 194.

PANISUS.

Panisus KOENIKE, Zool. Anz., XIX, 1896, p. 356.

- P. cataphracta** KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 196.

TANAOGNATHUS.

Tanognathus WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1900, p. 193.

- T. spinipes** WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1900, p. 194.

KRENDOWSKIA.

Krendowskia PIERSIG, Zool. Anz., XVIII, 1895, p. 147.

- K. ovata** WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1900, p. 181.

STEGANASPIS.

Steganaspis WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1901, p. 105.

- S. arrenuroides** WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1901, p. 106.

ARRENURUS.

Arrenurus DUGÈS, Ann. Sci. Nat., (2), I, 1834, p. 17.

- A. birgei** MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 158.
A. cardiacus MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 153.
A. caudatus DE GEER, Mém. Hist. Ins., III, 1778, p. 139.—PIERSIG, Das Tierreich, Lief. 13, 1901, p. 87.—MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 2), 1904, p. 521.

- A. conicus* PIERSIG, Zool. Anzeiger, XVI, 1893, p. 311; Das Tierreich, Lief. 13, 1901, p. 86.—MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 158.
- A. corniger* KOENIKE, Zool. Anzeiger, XVII, 1894, p. 276.—PIERSIG, Das Tierreich, Lief. 13, 1901, p. 84.—MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 155.
- A. cylindricus* PIERSIG, Zool. Anzeiger, XIX, 1896, p. 441; Das Tierreich, Lief. 13, 1901, p. 84.—MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 156.
- A. globator* MÜLLER, Zool. Dan. Prodr., 1776, p. 188.—PIERSIG, Das Tierreich, Lief. 13, 1901, p. 82.—MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 148.
- A. globator* var. *megalurus* MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 150.
- A. interpositus* KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 176.
- A. krameri* KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 182.
- A. lautus* KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 172.
- A. manubriator* MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 151.
- A. morrisoni* MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 2), 1904, p. 523.
- A. parallellatus* MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 154.
- A. securiformis* PIERSIG, Zool. Anzeiger, XVII, 1894, p. 377; Das Tierreich, Lief. 13, 1901, p. 83.—MARSHALL, Trans. Wisc. Acad. Sci., Arts, Lett., XIV (Pt. 1), 1903, p. 152.
- A. setiger* KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 178.

ATURUS.

Aturus KRAMER, Arch. f. Naturgesch., XLI, 1875, p. 309.

- A. mirabilis* PIERSIG, Sitzungsber. Ges. Leipzig, XXII–XXIII, 1897, p. 157.
scaber KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 186 (not Kramer).

XYSTONOTUS.

Xystonotus WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1900, p. 185.

- X. asper* WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1900, p. 186.

MIDEOPSIS.

Mideopsis NEUMAN, Svenska Akad. Handl., XVII, 1880, p. 67.

- M. orbicularis* MÜLLER, Zool. Dan. Prodr., 1776, p. 190.—KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 191.

LEBERTIA.

Lebertia NEUMAN, Svenska Akd. Handl., XVII, 1880, p. 68.

- L. tau-insignita* LEBERT, Bull. Soc. Vaudoise (2), XVI, 1879, p. 371.—KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 201.

SPERCHON.

Sperchon KRAMER, Arch. f. Naturgesch., 1877, p. 240.

S. glandulosus, KOENIKE, Zeitschr. wiss. Zool., XLIII, 1885, p. 270; Abh. naturw. Ver. Bremen, XIII, 1895, p. 202.

S. parvatus KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 202.

S. tenuipalpis KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 204.

LIMNESIA.

Limnesia KOCH, Crust. Myr. Arach. Deutsch., fasc. 2, 1835.

L. cornuta WOLCOTT, Trans. Amer. Micr. Soc., XXIV, 1903, p. 143.

L. histrionica HERMANN, Mém. Aptérol., 1804, p. 55.—WOLCOTT, Trans. Amer. Micr. Soc., XXIV, 1903, p. 146.

L. koenikei PIERSIG, Zool. Anz., 1894, p. 115; Das Tierreich, XIII, 1901, p. 177.

L. maculata MÜLLER, Zool. Danica prod., 1776, p. 191.—WOLCOTT, Trans. Amer. Micr. Soc., XXIV, 1903, p. 156.

L. paucispina WOLCOTT, Trans. Amer. Micr. Soc., XXIV, 1903, p. 152.

L. undulata MÜLLER, Hydrachne Danie, 1781, p. 80.—KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 206.—WOLCOTT, Trans. Amer. Micr. Soc., XXIV, 1903, p. 149.

LIMNESIOPSIS.

Limnesiopsis PIERSIG, Zoologica, XXII, 1897, p. 204.

L. anomala KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 207.

KOENIKEA.

Koenikea WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1900, p. 189.

K. concava WOLCOTT, Trans. Amer. Micr. Soc., XXI, 1900, p. 190.

ATRACTIDES.

Atractides KOCH, Crust. Myr. Arach. Deutsch., fasc. 11, 1837.

A. spinipes KOCH, Crust. Myr. Arach. Deutsch., fasc. 11, 1837, fig. 16.

oralis KOENIKE, Abh. naturw. Ver. Bremen, VIII, 1883, p. 32; XIII, 1895, p. 211.

HYGROBATES.

Hygrobates KOCH, Crust. Myr. Arach. Deutsch., fasc. 10, 1837.

H. decaporus KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 215.

H. exilis KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 213.

H. longipalpis HERMANN, Mém. Aptérol., 1804, p. 55.—KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 212.

H. multiporus KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 216.

TYRRELLIA.

Tyrrellia KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 198.

T. circularis KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 199.

ATAX.

Atax FABRICIUS, Syst. Antliatorum, 1805, p. 336.

- A. *abnormipes* WOLCOTT, Zool. Bull., I, 1898, p. 280; Trans. Amer. Micr. Soc., XX, 1899, p. 218.
 A. *aculeatus* KOENIKE, Zool. Anz., XIII, 1890, p. 140.
 A. *aculeatus* var. *sayi* PIERSIG, Das Tierreich, XIII, 1901, p. 213.—WOLCOTT, Trans. Amer. Micr. Soc., XX, 1899, p. 210.
 A. *adensameri* THON, Ann. Hofmus. Wien, XVI, 1902, p. 31.
 A. *arcuata* WOLCOTT, Zool. Bull., I, 1898, p. 284; Trans. Amer. Micr. Soc., XX, 1899, p. 231.
 A. *crassipes* MÜLLER, Zool. Dan. Prodr., 1776, p. 189.—WOLCOTT, Trans. Amer. Micr. Soc., XX, 1899, p. 205.
 A. *fossulatus* KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 221.—WOLCOTT, Trans. Amer. Micr. Soc., XX, 1899, p. 226.
 A. *indistinctus* WOLCOTT, Zool. Bull., I, 1898, p. 281; Trans. Amer. Micr. Soc., XX, 1899, p. 221.
 A. *intermedius* KOENIKE, Abh. naturw. Ver. Bremen, VII, 1882, p. 265.
 A. *intermedius* var. *Wolcottii* PIERSIG, Zool. Anzeiger, XXIII, 1900, p. 211.—WOLCOTT, Trans. Amer. Micr. Soc., XX, 1899, p. 214.
 A. *pectinata* WOLCOTT, Zool. Bull., I, 1898, p. 280; Trans. Amer. Micr. Soc., XX, 1899, p. 212.
 A. *serratus* WOLCOTT, Zool. Bull., I, 1898, p. 282; Trans. Amer. Micr. Soc., XX, 1899, p. 223.
 A. *stricta* WOLCOTT, Zool. Bull., I, 1898, p. 283; Trans. Amer. Micr. Soc., XX, 1899, p. 229.
 A. *tumidus* WOLCOTT, Zool. Bull., I, 1898, p. 285; Trans. Amer. Micr. Soc., XX, 1899, p. 236.
 A. *ypsilophorus* BONZ, Nova Acta Acad. Leop., VII, 1783, p. 52.
 A. *ypsilophorus* var. *haldemani* PIERSIG, Zool. Anz., XXIII (1900), p. 212.—KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 217.—WOLCOTT, Trans. Amer. Micr. Soc., XX, 1899, p. 233.
 formosa DANA and WHELPLEY, Amer. Jour. Sci., XXX, 1836, p. 357.
 oriformis HALDEMAN, Zool. Contrib., 1842, p. 1.
 lactea HALDEMAN, Zool. Contrib., 1842, p. 1.

UNIONICOLA.

Unionicola HALDEMAN, Zool. Contrib., 1842, p. 1. [Most, if not all, the species are probably synonyms of *Atax ypsilophorus*.]

- U. *humerosa* HALDEMAN, Zool. Contrib., 1842, p. 2.
 U. *lugubris* HALDEMAN, Zool. Contrib., 1842, p. 2.
 U. *personata* HALDEMAN, Zool. Contrib., 1842, p. 2.
 U. *proxima* HALDEMAN, Zool. Contrib., 1842, p. 2.
 U. *reticulata* HALDEMAN, Zool. Contrib., 1842, p. 3.
 U. *symmetrica* HALDEMAN, Zool. Contrib., 1842, p. 2.
 U. *unicolor* HALDEMAN, Zool. Contrib., 1842, p. 3.

NEUMANIA.

Neumania LEBERT, Bull. Soc. Vandoise (2), XVI, 1879, p. 340.

- N. *vernalis* MÜLLER, Zool. Dan. Prodr., 1776, p. 189.—KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 218.—PIERSIG, Das Tierreich, XIII, 1901, p. 227.

NAJADICOLA.

Najadicola PIERSIG, Zool. Anz., XX, 1897, p. 60.

N. ingens KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 219.—WOLCOTT, Trans. Amer. Micr. Soc., XX, 1899, p. 238.

FELTRIA.

Feltria KOENIKE, Zool. Anz., XV, 1892, p. 323.

F. minuta KOENIKE, Zool. Anz., p. 323, 1892.—PIERSIG, Das Tierreich, XIII, 1901, p. 231.

PIONA.

Piona KOCH, Übers. Arachn. Syst., III, 1842, p. 13.

P. constrictus WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 222.

P. coronis WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 208.

P. crassus WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 246.

P. debilis WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 234.

P. exilis WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 210.

P. fuscatus HERMANN, Mem. apterol., 1804, p. 58.—PIERSIG, Das Tierreich, XIII, 1901, p. 256.

P. guatemalensis STOLL, Biol. Cent.-Amer. Arach.-Acari., 1887, p. 11.—KOENIKE, Abh. naturw. Ver. Bremen, XIII, 1895, p. 209.

P. inconstans WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 241.

P. medius WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 229.

P. obturbans PIERSIG, Zool. Anz., XIX, 1896, p. 439.—WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 240.

P. pugilis WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 213.

P. reighardi WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 235.

P. rotundus KRAMER, Arch. f. Naturgesch., 1879, p. 12.—WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 231.

P. setiger WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 243.

P. spinulosus WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 226.

P. triangularis WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 220.

P. turgidus WOLCOTT, Trans. Amer. Micr. Soc., XXIII, 1902, p. 216.

HYDRACHNA.

(Unplaced.)

H. belostomæ RILEY, 1st Rept. U. S. Ent. Com., 1878, p. 312.

H. coccinea HALDEMAN, Proc. Phil. Acad., I, 1842, p. 196.

H. nebulosa HALDEMAN, Proc. Phil. Acad., I, 1842, p. 196.

H. pyriformis DANA and WHELPLEY, Amer. Journ. Sci., XXX, 1836, p. 358.

H. 5-undata HALDEMAN, Proc. Phil. Acad., I, 1842, p. 184.

H. scabra HALDEMAN, Proc. Phil. Acad., I, 1842, p. 184.

H. triangularis SAY, Journ. Phil. Acad., II, 1821, p. 79.—LE CONTE, Edit., II, 1859, p. 22. [Probably equal *Har. gysilophorus*.]

H. tricolor PACKARD, Amer. Journ. Sci. (3), I, 1871, p. 108.

Family HALACARIDÆ.

THALASSARACHNA.

Thalassarachna PACKARD, Amer. Jour. Sci. (3), 1, 1871, p. 108.

T. verrillii PACKARD, Amer. Jour. Sci. (3), 1, 1871, p. 107.

Family IXODIDÆ.

ARGAS.

Argas LATREILLE, Précis Caract. Ins., 1796, p. 178.

A. miniatus KOCH, Arch. f. Naturg., X, 1844, p. 219.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 402.

americana PACKARD, Rept. U. S. Geol. Survey Montana, Idaho, Wyoming, Utah, 1872, p. 740.—NEUMANN, Mém. Soc. Zool. France, 1896, p. 9.

radiatus RAILLIET, Traité Zool. Méd., 1893, p. 718.

persicus NEUMANN, Arch. Parasit., IX, 1905, p. 240 (not of Fischer).

A. sanchezi DUGÈS, La Natureza (2), 1, 1891, p. 20.—NEUMANN, Mém. Soc. Zool. France, 1896, p. 16; 1901, p. 255.

ORNITHODOROS.

Ornithodoros KOCH, Arch. f. Naturg., X, 1844, p. 219.

O. megnini DUGÈS, La Natureza Mexicana, VI, 1885, p. 197.—NEUMANN, Mém. Soc. Zool. France, 1896, p. 42.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 408.

spinosum MARX, Proc. Ent. Soc. Washington, III, 1895, p. 199 (*Rhynchopium*).

O. turicata DUGÈS, La Nature Mexicana, VI, 1885, p. 196.—NEUMANN, Mém. Soc. Zool. France, 1896, p. 31.

americanus MARX, Proc. Ent. Soc. Washington, 1895, III, p. 199.

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Ixodes LATREILLE, Précis Caract. Ins., 1796, p. 179.

I. angustus NEUMANN, Mém. Soc. Zool. France, 1889, p. 136; 1901, p. 284.

I. arcticus OSBORN, Fur Seals and Fur Seal Islands of North Pacific Ocean, III, 1899, pp. 553-554.

I. brunneus KOCH, Arch. f. Naturg., X, 1844, p. 232; Arachn. Syst., IV, 1847, p. 101; NEUMANN, Arch. Parasit., VIII, 1904, p. 454.

I. californicus BANKS, Proc. California Acad. Science (3), III, 1904, p. 369.

I. cookei PACKARD, 1st Ann. Rept. Peabody Acad. Science, 1869, p. 67.

cruciarinus FITCH, 14th New York Rept., 1871, p. 366.

hexagonus var. *longispinosus* NEUMANN, Mém. Soc. Zool. France, 1901, p. 283.

hexagonus SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 467 (not of Leach).

I. dentatus NEUMANN, Mém. Soc. Zool. France, 1899, p. 119.

I. diversifossus NEUMANN, Mém. Soc. Zool. France, 1899, p. 136.

I. frontalis PANZER, Fauna Ins. Germ., fasc. 59, fig. 23, 1795.—NEUMANN, Mém. Soc. Zool. France, 1899, p. 133.

- I. fuscus** SAY, Journ. Phil. Acad., 11, 1821, p. 79.—LE CONTE, Edit., 11, 22, 1859.
[Probably male of *I. scapularis*.]
- I. inchoatus** NEUMANN, Mém. Soc. Zool. France, 1901, p. 283 (as var. of *hectagonus*). [Doubtfully the same as European.]
- I. ricinus** LINNAEUS, Syst. Nat., 1758, p. 615.—NEUMANN, Mém. Soc. Zool. France, 1899, p. 112.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 463.
- I. scapularis** SAY, Journ. Phil. Acad., 11, 1821, p. 78.—LE CONTE, Edit., 11, 1859, p. 21.
affinis NEUMANN, Mém. Soc. Zool. France, 1899, p. 120.
- I. sculptus** NEUMANN, Arch. Parasit., VII, 1904, p. 462.
- I. uriae** WHITE, Sutherland's Journ. Voy. Baffins Bay, II, App., 1852, p. cxx.
[No description.] [Perhaps *Ceratixodes borealis* Kramer and Neuman.]

CERATIXODES.

- Ceratixodes* NEUMANN, Arch. Parasit., VI, 1902, p. 115.
- C. borealis** KRAMER and NEUMAN, Acariden während Vega Exped., 1883, p. 526.
fimbriatus KRAMER and NEUMAN, Acariden während Vega Exped., 1883, p. 526, male.
hirsutus BIRULA, Bull. Acad. Imp. St. Petersb., 1895, p. 356.
- C. signatus** BIRULA, Bull. Acad. Imp. St. Petersb., 1895, p. 357.

HÆMAPHYSALIS.

- Hæmaphysalis* KOCH, Arch. f. Naturg., X, 1844, p. 237.
- H. chordeilis** PACKARD, 1st Ann. Rept. Peabody Acad. Science, 1869, p. 67.
- H. leporis-palustris** PACKARD, 1st Ann. Rept. Peabody Acad. Science, 1869, p. 67.—NEUMANN, Mém. Soc. Zool. France, 1897, p. 343.
rostralis DUGES, Bull. Soc. Zool. France, 1888, p. 129. (*Goni-rodex*.)

AMBLYOMMA.

- Amblyomma* KOCH, Arch. f. Naturg., X, 1844, p. 223.
- A. americana** LINNAEUS, Syst. Nat., X, 1758, p. 615.—FITCH, 14th N. Y. Rept., 1871, p. 364.—NEUMANN, Mém. Soc. Zool. France, 1899, p. 209.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 475.
? orbiculatus SAY, Journ. Phil. Acad., 11, 1821, p. 76.
unipuncta PACKARD, 1st Ann. Rept. Peabody Acad. Sci., 1869, p. 66.
- A. cajennense** FABRICIUS, Entom. syst., IV, 1794, p. 427.—KOCH, Übersicht Arachn. syst., IV, 1847, p. 73.—NEUMANN, Mém. Soc. Zool. France, 1899, p. 205.
crenatum SAY, Journ. Phil. Acad., 11, 1821, p. 76.—LE CONTE, Edit., 11, 1859, p. 20.
mirum KOCH, Arch. f. Naturg., X, 1844, p. 227.
- A. maculatum** KOCH, Arch. f. Naturg., X, 1844, p. 227.—NEUMANN, Mém. Soc. Zool., France, 1899, p. 249.
tigrinum KOCH, Arch. f. Naturg., X, 1844, p. 227.
teuclum KOCH, Arch. f. Naturg., X, 1844, p. 227.
rufripes KOCH, Arch. f. Naturg., X, 1844, p. 228.
oratum KOCH, Arch. f. Naturg., X, 1844, p. 228.
triste KOCH, Arch. f. Naturg., X, 1844, p. 229.
- A. tuberculatum** MARX, Insect Life, VI, p. 314.—NEUMANN, Mém. Soc. Zool. France, 1899, p. 235.

DERMACENTOR.

Dermacentor KOCH, Arch. f. Naturges., X, 1844, p. 235.

- D. albipictus** PACKARD, Amer. Nat., 11, 1868, p. 559 (no description); Guide Study Ins., 9th part, p. 662, 1869 (Aug.); Amer. Nat., 111, 1869, p. 365-6.
variegatus NEUMANN, Mém. Soc. Zool. France, 1897, p. 367.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 452.
reticulatus SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 448 (not of Fabricius).
- D. bifurcatus** NEUMANN, Mém. Soc. Zool. France, 1899, p. 122; Arch. Parasitol., VIII, 1904, p. 453.
- D. nigrolineatus** PACKARD, 1st Ann. Rept. Peabody Acad. Science, 1869, p. 66.
- D. nitens** NEUMANN, Mém. Soc. Zool. France, 1897, p. 376.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 455.
- D. occidentalis** NEUMANN, Archiv. Parasitol., IX, 1905, p. 235.
reticulatus NEUMANN, Mém. Soc. Zool. France, 1897, p. 360, part.
- D. parumapertus** NEUMANN, Mém. Soc. Zool. France, 1901, p. 267; Archiv. Parasitol., IX, 1905, p. 236.
- D. variabilis** SAY, Journ. Phil. Acad., 11, 1821, p. 77.—LE CONTE, Edit., 11, 1859, p. 21.
americanus AUTHORS (not Linnaeus).
electus KOCH, Arch. f. Naturges., X, 1844, p. 235.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Ind., 1902, p. 455.
albipictus PACKARD, 1st Rept. Peabody Acad. Sci., 1869, p. 66 (not of Guide and Amer. Nat.).
5-striatus FITCH, 14th New York Rept., 1871, p. 366.
robertsoni FITCH, 14th New York Rept., 1871, p. 366.
? punctulatus SAY, Journ. Phil. Acad., 11, 1821, p. 78.—LE CONTE, Edit. p. 21, 1859.

MARGAROPUS.

Margaropus KARSCII, Mitt. Münch. Ent. Ver., 1879, p. 96.

- M. annulatus** SAY, Journ. Phil. Acad., 11, 1821, p. 75.—LE CONTE, Edit., 11, 1859, p. 19.—NEUMANN, Mém. Soc. Zool. France, 1897, p. 407.—SALMON and STILES, 17th Ann. Rept. Bur. Anim. Industry, 1902, p. 420.
boris PACKARD, 1st Rept. Peabody Acad. Sci., 1869, p. 68.
boris RILEY, Gamgee's Rept. Diseases Cattle, 1869, p. 168.
indentatus GAMGEE, Gamgee's Rept. Diseases Cattle, 1869, p. 121.
dugei MÉGNIN, Les Parasites, 1880, p. 126.

IXODES.

(Unplaced.)

- I. cinctus** FABRICIUS, Syst. Antliatorum, 1805, p. 356.
- I. erraticus** SAY, Journ. Phil. Acad., 1821, p. 77.—LE CONTE, Edit., 11, 1859, p. 20.
 [Probably a *Dermacentor*.]

Family GAMASIDÆ.

HALARACHNÆ.

Halarachne ALLMAN, Ann. Mag. Nat. Hist., XX, 1847, p. 47.

H. americana BANKS, Proc. Ent. Soc. Wash., IV, 1899, p. 213.

PTEROPTUS.

Pteroptus DUFOUR, Ann. Sci. Nat., XXVI, 1832, p. 98.

P. americanus BANKS, Canad. Entom., 1902, p. 173.

DERMANYSSUS.

Dermanyssus DUGES, Ann. Sci. Nat. (Zool.), I, 1834, p. 18.

D. gallinæ REDI, Esper. Int. Insetti., 1668, pl. II.—MÉGNIN, Parasit., 1880, p. 115.—OSBORN, Bull. 33 Iowa Agric. Exp. Sta., 1896, p. 595.

LIPONYSSUS.

Liponyssus KOLENATI, Sitzungsber. Kais. Akad. Wissenschft. Wien. Math.-naturw. cl., XXXV, 1859, p. 172.

L. americanus BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 136.

HÆMOGAMASUS.

Hæmogamasus BERLESE, Acari Myr. Scorp., fasc. 52, 1889.

H. americanus BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 137.

RAILLIETIA.

Railletia TROUESSART, C. R. Soc. Biol., LIV, 1902, p. 1337; Bull. Soc. Zool. France, XXVII, 1902, p. 232.

R. auris LEIDY, Proc. Phil. Acad., 1872, p. 138.—TROUESSART, C. R. Soc. Biol., LIV, 1902, p. 1337; Bull. Soc. Zool. France, XXVII, 1902, p. 233.

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Celænopsis BERLESE, Acari Myr. Scorp., fasc. 31, 1886.

C. americanus BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 137.

SEIUS.

Seius KOCH, Crust. Myr. Arachn. Deutsch., fasc. 4, 1836.

S. sanborni PACKARD, Cave Memoir, 1887, p. 42.

S. quadripilis BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 138.

LÆLAPS.

Laelaps Koch, Crust. Myr. Arachn. Deutsch., fasc. 4, 1836.

- L. cavernicola* PACKARD, Cave Memoir, 1887, p. 42.
- L. cuneifer* var. *americanus* BERLESE, Redia, I, 1904, p. 418.
- L. macropilis* BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 139.
- L. pilosula* BANKS, Proc. Calif. Acad. Science, (3), III, 1904, p. 368.
- L. placidus* BANKS, Journ. N. Y. Ent. Soc., 1895, p. 128.
- L. similis* MONIEZ, Rev. Biol. Nord France, VI, 1894, p. 20.
- L. wyandottensis* PACKARD, Cave Memoir, 1887, p. 42.

ECHINOMEGISTUS.

Echinomegistus BERLESE, Redia, I, 1904, p. 266.

- E. wheeleri* WASMANN, Zool. Anzeiger, 1902, p. 72 (*Autumnophorus*).—BERLESE, Redia, I, 1904, p. 398.

GAMASUS.

Gamasus LATREILLE, Hist. nat. Crust. Inss., III, 1802, p. 64.

- G. antennæpes* SAY, Journ. Phil. Acad., II, 1821, p. 71.—LE CONTE, Edit., II, 1859, p. 17.
- G. californicus* BANKS, Proc. Calif. Acad. Science (3), III, 1904, p. 368.
- G. juloides* SAY, Journ. Phil. Acad., II, 1821, p. 72.—LE CONTE, Edit., II, 1859, p. 18.
- G. longipalpoides* FELT, 11th Rept. State Entom. N. Y., 1896, p. 259. [Name not to be applied unless mite is new.]
- G. musculus* SAY, Journ. Phil. Acad., II, 1821, p. 72.—LE CONTE, Edit., II, 1859, p. 17.
- G. nidularius* SAY, Journ. Phil. Acad., II, 1821, p. 72.—LE CONTE, Edit., II, 1859, p. 17.
- G. passali* GUÉRIN, Iconog. Règne Anim., IV, Arachn., 1843, p. 15.
- G. spinipes* SAY, Journ. Phil. Acad., II, 1821, p. 71.—LE CONTE, Edit., II, 1859, p. 17.
- G. stygius* PACKARD, Cave Memoir, 1887, p. 42.
- G. troglodytes* PACKARD, Cave Memoir, 1887, p. 42.

MACROCHELES.

Macrocheles LATREILLE, Règne Anim. (nouv. ed. rev. et aug.), IV, 1829, p. 282.

- M. arcticus* KRAMER and NEUMAN, Acariden während Vega Exped., 1883, p. 522.
- M. carolinensis* BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 137.
- M. exilis* BANKS, Proc. Wash. Acad. Sciences, II, 1900, p. 485.
- M. mæstus* BANKS, Canad. Entom., 1898, p. 265.

MEGISTHANUS.

Megisthanus THORELL, Ann. Mus. Genov., XVIII, 1882, p. 41.

- M. floridanus* BANKS, Proc. Acad. Nat. Sci. Phil., 1904, p. 445.

LIROASPIS.

Liroaspis BANKS, Canad. Entom., 1902, p. 174.

L. americana BANKS, Canad. Entom., 1902, p. 174.

UROPODA.

Uropoda LATREILLE, Gen. Crist. Ins., I, 1806, p. 157.

U. americana RILEY, Proc. Am. Assoc. Adv. Sci., XXV, 1877, p. 273; 9th Mo. Rept., 1877, p. 41.

U. campomolendina var. *canadensis* BERLESE, Redia, II, 1905, p. 22.

U. formica FITCH, Trans. N. Y. State Agric. Soc. for 1854, p. 857, (1855). 1st Rept., p. 153.

U. lucifugus PACKARD, Cave Memoir, 1887, p. 42.

U. pennsylvanica BERLESE, Redia, I, 1904, p. 251; p. 347 (*U. roplitella*).

U. punctulata BANKS, Canad. Entom., 1898, p. 266.

TRACHYTES.

Trachytes MICHAEL, Trans. Roy. Micr. Soc., 1894, p. 297.

T. lagenæformis BERLESE, Redia, II, 1905, p. 21.

CILLIBA.

Cilliba HEYDEN, Isis, 1826, p. 612.

C. circularis BANKS, Canad. Entom., 1898, p. 266 (*Discopoma*).

C. hirsuta BANKS, Proc. U. S. Nat. Mus., XXV, 1902, p. 221 (*Discopoma*).

C. hirticoma BERLESE, Redia, I, 1904, pp. 246, 331.

DINYCHUS.

Dinychus KRAMER, Arch. f. Naturg., LI, 1886, p. 255.

D. americanus BANKS, Proc. Ent. Soc. Wash., VII, 1906, p. 139.

Family ORIBATIDÆ.

GALUMNA.

Galumna HEYDEN, Isis, 1826, p. 612. [*Oribata* of authors, not of Latreille.]

G. affinis BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 6.

G. alata PACKARD, Cave Memoir, 1887, p. 42. [Name preoccupied; but it may be a synonym of some other species.]

G. arborea BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 7.

G. armipes BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 492.

G. depressa BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 6.

G. emarginata BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 7.

G. hirsuta BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 7.

G. imperfecta BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 492.

G. magna BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 6.

G. minuscula BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 492.

G. mœsta BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 6.

- G. nitidula* BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 491.
G. palustris BANKS, Journ. N. Y. Ent. Soc., 1895, p. 128.
G. persimilis BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 491.
G. pratensis BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 6.
G. robusta BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 7.
G. slossonæ BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 490.
G. texana BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 494.
G. turgida BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 493.
G. unimaculata BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 490.
G. virginica BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 493.

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Oribatella BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 8.

- O. aquatica* BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 9.
O. armata BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 9.
O. bidentata BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 8.
O. borealis BANKS, Insects, etc., Commander Isl., 1899, p. 349.
O. minuta BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 76.
O. obesa BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 9.
O. perfecta BANKS, Trans. Amer. Ent. Soc., XXIII, 1896, p. 75.
O. 4-dentata BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 8.
O. setosa BANKS, Journ. N. Y. Ent. Soc., 1895, p. 129.
O. signata BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 9.

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Oribatodes BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 10.

- O. mirabilis* BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 10.

GYMNOBATES.

Gymnobates BANKS, Canad. Entom., 1902, p. 175.

- G. glaber* BANKS, Canad. Entom., 1902, p. 176.

ORIBATULA.

Oribatula BERLESE, Acari, Myriop. Scorp. Ital., Crypt., II, 1896, p. 54.

- O. pallida* BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 494.

EREMÆUS.

Eremarus KOCH, Crust. Myr. Arach. Deutsch., fasc. 3, 1835.

- E. arctica* BANKS, Insects, etc., Commander Isl., 1899, p. 349.
E. floridanus BANKS, Proc. Acad. Nat. Sci. Philad., 1904, p. 145.
E. pilosus BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 11.

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Liacarus MICHAEL, Das Tierreich, III, 1898, p. 40.

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- L. carolinensis* BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 494.
- L. concolor* BANKS, Trans. Amer. Ent. Soc., XXII, 1895, p. 11.
- L. frontalis* BANKS, Proc. Acad. Nat. Sci. Philad., 1906, p. 495.
- L. modestus* BANKS, Proc. California Acad. Science (3), III, 1904, p. 367.
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